

Abstract

A three-terminal, dual-diode system is compatible with both fully differential remote and single-ended remote temperature measurement systems. Fully differential remote temperature sensor systems offer better noise immunity and can perform faster conversions with less sensitivity to series resistance than single-ended systems. The two diode system can be used with either fully differential or single-ended temperature measurement systems, which can be used when upgrading from a single-ended architecture to a fully differential architecture, and which can provide backwards compatibility to single-ended architectures for users of fully differential architectures. The simultaneous forwards and backwards compatibilities reduces development risk associated with switching from a proven architecture (e.g., single-ended) to a newer, less-proven, architecture (e.g., fully differential).